

THIS PROJECT INVOLVES THE INSTALLATION OF APS PUSHBUTTONS AND SIGNS AT THE INTERSECTION OF MD 26 (LIBERTY RD) AT TIVERTON RD. MD 26 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION.

THE INTERSECTION WILL OPERATE IN A NEMA THREE-PHASE FULL-TRAFFIC-ACTUATED MODE WITH AN ALTERNATE PEDESTRIAN PHASES FOR THE WEST LEG AND CONCURRENT PEDESTRIAN PHASE FOR THE NORTH LEG OF THE INTERSECTION.

THE EXISTING FULL-TRAFFIC-ACTUATED EIGHT-PHASE TRAFFIC SIGNAL CONTROLLER HOUSED IN A BASE MOUNTED CABINET SHALL REMAIN. A 2-WIRE APS CENTRAL CONTROL UNIT SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED BY SHA.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 26 (LIBERTY ROAD):

- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS LIBERTY AT TIVERTON. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.
- TO CROSS TIVERTON ROAD:
- A. WHEN PEDESTRIAN LOCATES AND PRESSES PUSHBUTTON FOR AN EXTENDED TIME THE PUSHBUTTON UNIT MESSAGE WILL BE "WAIT TO CROSS TIVERTON AT LIBERTY. WAIT."
- B. WHEN WALK PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

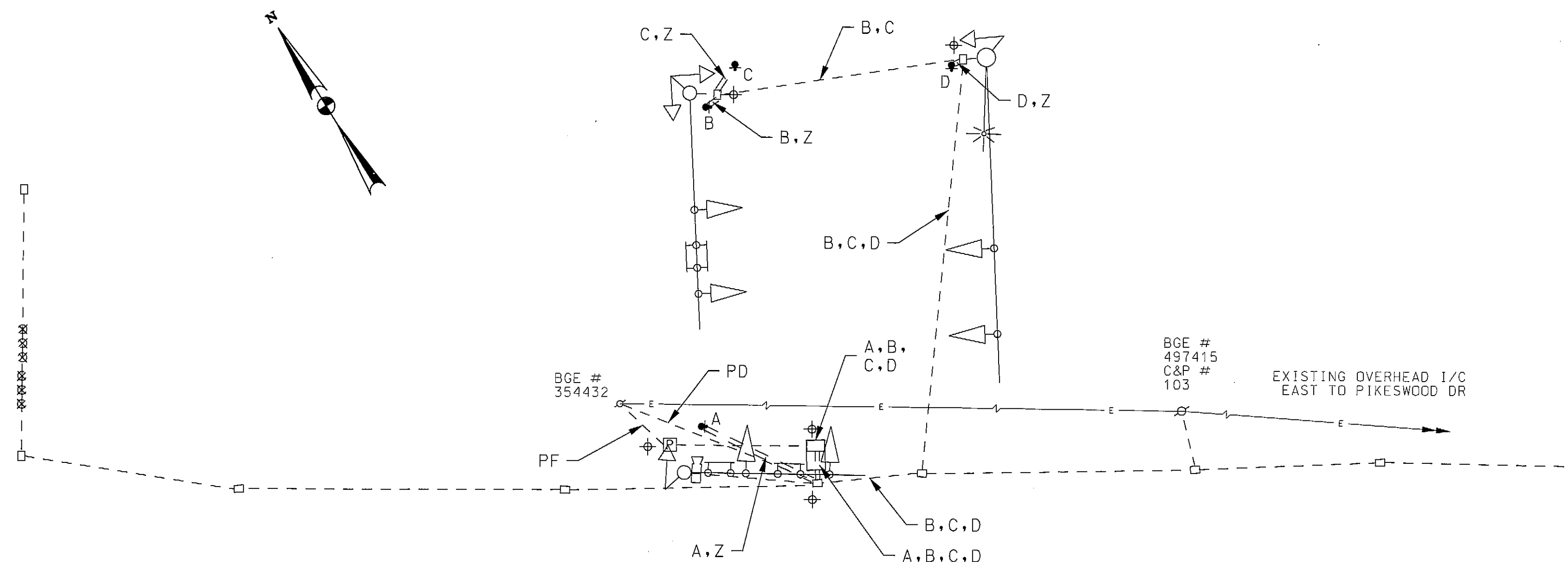
A. EQUIPMENT TO BE SUPPLIED BY SHA.

ITEM NO.	DESCRIPTION	UNIT	QUANTITY
900000	SHEET ALUMINUM MAST ARM/POLE MOUNTED SIGNS 4 - R10-3(1) 9"x15"	SF	4
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.			
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
100000	MAINTENANCE OF TRAFFIC (PER INTERSECTION)	EA	1
201032	CLASS 2 EXCAVATION	CY	2.5
585621	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF	90
585700	REMOVAL OF EXISTING PAVEMENT MARKING LINES, ANY WIDTH	LF	185
600000	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	65
600000	TYPE A CURB ANY HEIGHT OR DEPTH	LF	21
600000	DETECTABLE WARNING SURFACE FOR CURB RAMPS (TYPE 3 BRICK PAVERS)	SF	48
655105	5 INCH CONCRETE SIDEWALK	SF	773
800000	2-WIRE APS CENTRAL CONTROL UNIT	EA	1
800000	ADJUST HANDHOLE TO GRADE AND REPLACE FRAME AND COVER	EA	2
800000	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	EA	4
800000	5 FOOT OR 10 FOOT PEDESTAL POLE WITH BREAKAWAY COUPLINGS, FOUNDATION & GROUND ROD	EA	4
800000	REMOVE & DISPOSE OF EXISTING SIGNAL EQUIPMENT (PER SIGNALIZED INTERSECTION LOCATION)	EA	1
800000	UP TO 4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	LF	60
800000	INSTALL OVERHEAD OR GROUND MOUNTED SIGN (INCLUDING ALL HARDWARE)	SF	4
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	LF	60
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	LF	670

C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

	1	2	3	4	5	6	7	8	9	10
PHASE 2 AND 6	G	G	G	G	R	R	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	R	R	DW	DW	FL/DW	FL/DW
2 AND 6 CHANGE	Y	Y	Y	Y	R	R	DW	DW	DW	DW
PHASE 4	R	R	R	R	G	G	DW	DW	DW	DW
4 CHANGE	R	R	R	R	Y	Y	DW	DW	DW	DW
PHASE 4 ALT	R	R	R	R	G	G	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	G	G	FL/DW	FL/DW	DW	DW
4 ALT CHANGE	R	R	R	R	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	DARK	DARK	DARK	DARK

1. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE LOCATIONS PRIOR TO INSTALLATION.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
3. ALL UNUSED CABLE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "MISS UTILITY" PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.
5. ALL PEDESTAL FOUNDATION TOPS SHALL BE INSTALLED FLUSH WITH SIDEWALK GRADE.
6. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SECTION 4E.10. MUTCD FIGURES 4E-3 AND 4E-4, AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
7. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18" FROM A 60" X 60" LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
8. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON. NOT CENTER OF POLE TO CENTER OF POLE.
9. PUSHBUTTON ARROWS AND SIGNS ARE TO BE ORIENTED PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
10. VIDEO DETECTION CAMERA REALIGNMENT SHALL BE COORDINATED WITH THE ENGINEER.
11. THE CONTRACTOR SHALL CAP AND ABANDON CONDUITS FEEDING EXISTING SIGNAL EQUIPMENT THAT IS REMOVED.
12. THE CONTRACTOR SHALL CONTACT ED RODENHIZER AT THE SIGNAL SHOP (410-787-7652) TO DELIVER APS EQUIPMENT FOR TESTING.



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A,B,C,D	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
Z	STRANDED BARE COPPER GROUND WIRE (NO. 6 AWG)
PF	EXISTING POWER FEED
PD	EXISTING PHONE DROP
⊕	EXISTING GROUND ROD



SHA STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 26 (LIBERTY ROAD) AT
TIVERTON ROAD
RANDALLSTOWN, MARYLAND

REVISIONS		GENERAL INFORMATION SHEET			
		SCALE <u>NONE</u>		DATE <u>JANUARY 2013</u>	CONTRACT NO. <u>XY1518</u>
		DESIGNED BY <u>WFW</u>		COUNTY <u>BALTIMORE</u>	
		DRAWN BY <u>WFW</u>		LOGMILE <u>03002603.86</u>	
		CHECKED BY <u>BJG</u>		TIMS NO. <u>L825</u>	
		FAP NO. _____		TOD NO. _____	
TS NO. 4344B-01		DRAWING SP-10 OF 10		SHEET NO. 2 OF 2	

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BY: WFW